

REMARKS

This is in response to the Office Action of March 3, 2009. Claims 1 and 2 are cancelled, without prejudice. No new matter is introduced by this Amendment. Claims 3-15 are now pending in the application.

KORSHAK ALONE

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Korshak *et al.* article. Office Action, pages 2-4. This ground of rejection is rendered moot by the cancellation of claims 1 and 2.

HAMCIUC IN VIEW OF KORSHAK

Claims 3-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hamciuc *et al.* article in combination with the Korshak *et al.* article. Office Action, pages 4-7. The rejection is respectfully traversed.

Legal considerations

The Examiner admits that Hamciuc does not teach Applicants' diamine compounds. The Examiner contends, however, on page 6 of the Office Action, that "it would have been obvious to a person of ordinary skills in the art to use Korshak's diamine in Hamciuc's copolyimide in order to achieve" certain useful properties. Even assuming that the Examiner's contention is accurate, this still does not provide a polyimide or polyimide precursor falling within the scope of Applicants' claims.

This is because, as the Examiner admits on page 3 of the Office Action, "the amino groups in the Application are present at the ortho-position, whereas in Korshak's disclosure it is at meta-position with respect to the position of the nitrogen atoms in the quinoxaline moiety."

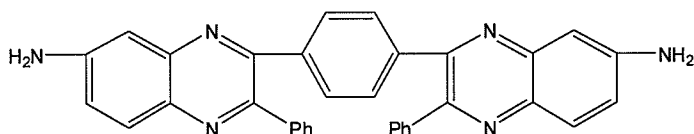
Therefore, even if a person of ordinary skill in the art were to modify the Hamciuc compound by substituting the Korshak diamine thereinto, the person of ordinary skill in the art

would still not have a compound claimed by Applicants. It is manifest that the outstanding Office Action fails to state a sustainable rejection of any of claims 3-15.

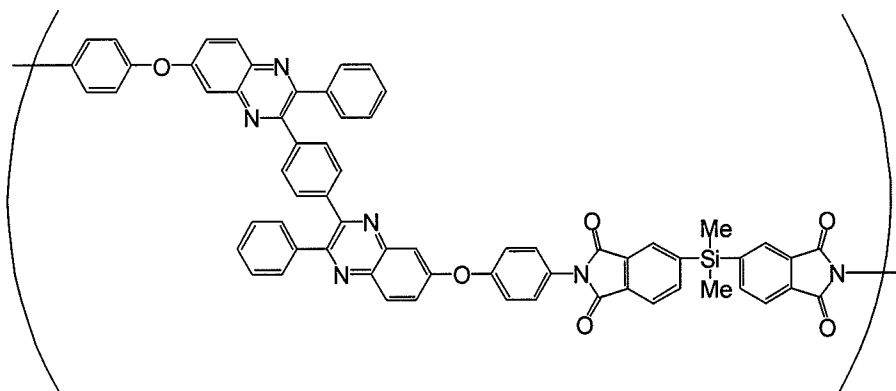
Technological considerations

Technological distinctions between the prior art disclosures and the present invention are discussed in more detail below.

Korshak discloses the following diamine. In this diamine, the amino groups exist at meta- and para-position to the position of nitrogen atoms in quinoxaline.

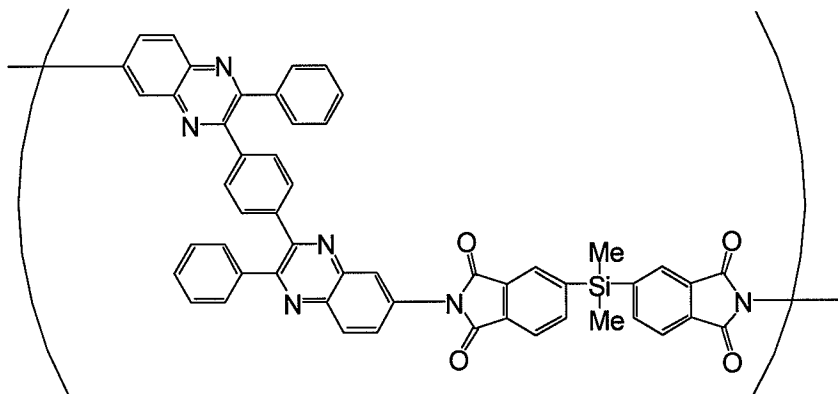


On the other hand, Hamciuc discloses the following polyimide.

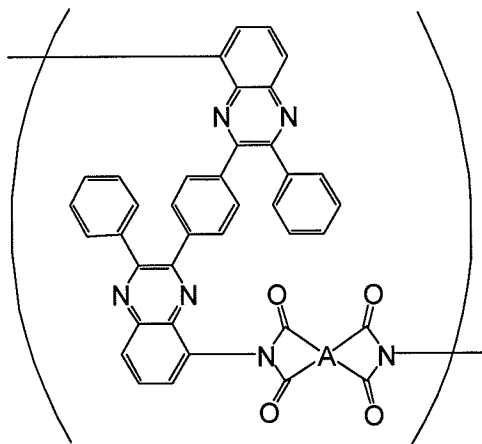


This polyimide is obtained from a diamine in which the amino groups exist at meta- and para-position to the position of nitrogen atoms in quinoxaline.

Therefore, if a person of ordinary skill in the art attempts to apply the diamine of Korshak to Hamciuc, the following polyimide results.



However, this hypothetical polyimide is quite different from Applicants' polyimide. That is, the hypothetical polyimide has a sterically-unhindered structure linking at meta- and para-position to the position of nitrogen atoms in quinoxaline. In contrast, Applicants' polyimide has a sterically-hindered structure linking at ortho- and meta-position to the position of nitrogen atoms in quinoxaline, as follows.



The prior art fails to teach a polyimide having such a sterically-hindered structure. That is, the prior art fails to teach a polyimide obtained by using a diamine whose amino groups exist at ortho- and meta-position to the position of nitrogen atoms in quinoxaline.

Moreover, in addition, it is pointed out that Applicants' polyimide – having such sterically-hindered structure – is characterized by high heat resistance and low electrical

resistance. Persons of ordinary skill in the art would not have foreseen this advantageous effect from the Korshak and Hamciuc disclosures.

Conclusion

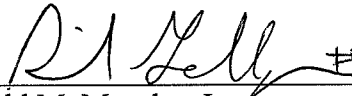
Accordingly, Applicants respectfully submit that the inventive polyimide precursor and polyimide possess unobviousness. For the foregoing reasons, Applicants respectfully solicit withdrawal of the rejections of record and passage of this application to Issue.

CONTACT INFORMATION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Registration No. 28,781) at (703) 205-8008.

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Respectfully submitted,

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